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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/006,742	08/12/2003	6181990	GCSD-1360 (51298)	3151

7590 06/03/2005

Kirkpatrick & Lockhart LLP
Henry W. Oliver Building
535 Smithfield Street
Pittsburgh, PA 15222

EXAMINER		
ART UNIT		PAPER NUMBER

DATE MAILED: 06/03/2005

10

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action in Ex Parte Reexamination	Control No. 90/006,742	Patent Under Reexamination 6181990	
	Examiner Yonel Beaulieu	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

a☐ Responsive to the communication(s) filed on ____. b☐ This action is made FINAL.
c☐ A statement under 37 CFR 1.530 has not been received from the patent owner.

A shortened statutory period for response to this action is set to expire 2 month(s) from the mailing date of this letter. Failure to respond within the period for response will result in termination of the proceeding and issuance of an *ex parte* reexamination certificate in accordance with this action. 37 CFR 1.550(d). **EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.550(c).** If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☒ Information Disclosure Statement, PTO-1449.
3. ☐ Interview Summary, PTO-474.
4. ☐ ____.

Part II SUMMARY OF ACTION

1a. ☒ Claims 1-33 are subject to reexamination.
1b. ☐ Claims ____ are not subject to reexamination.
2. ☐ Claims ____ have been canceled in the present reexamination proceeding.
3. ☒ Claims 5,8-14 and 25-32 are patentable and/or confirmed.
4. ☒ Claims 1-4,6,7,15-24 and 33 are rejected.
5. ☐ Claims ____ are objected to.
6. ☐ The drawings, filed on ____ are acceptable.
7. ☐ The proposed drawing correction, filed on ____ has been (7a)☐ approved (7b)☐ disapproved.
8. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some* c)☐ None of the certified copies have
   1☐ been received.
   2☐ not been received.
   3☐ been filed in Application No. ____.
   4☐ been filed in reexamination Control No. ____.
   5☐ been received by the International Bureau in PCT application No. ____.
   * See the attached detailed Office action for a list of the certified copies not received.
9. ☐ Since the proceeding appears to be in condition for issuance of an *ex parte* reexamination certificate except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte* Quayle, 1935 C.D. 11, 453 O.G. 213.
10. ☐ Other: ____

cc: Requester (if third party requester)

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: .

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6, 7, 15 – 20, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Ross et al. (US 5,351,194).

Regarding claims 1, 18, and 19, Ross teaches an aircraft data transmission system (see fig. 1) and a computer-implemented method (fig. 2), the aircraft having a data acquisition unit (10), the system/method comprising a communications unit (24) located in the aircraft and in communication with the data acquisition unit (10); a cellular infrastructure (note col.4, lines 40 – 50) in communication with the communications unit after the aircraft has landed, wherein communication is initiated automatically upon landing of the aircraft; and a data reception unit (32) in communication with the cellular infrastructure (col. 5, lines 48 – 66 at least).

Regarding claim 4, Ross further teaches the use of a modem for facilitating communication between the communications unit and the cellular infrastructure (note col. 6, lines 48 – 51 at least).

Regarding claim 6, Ross further teaches an antenna communicating with a transceiver subsystem and a controller (see fig. 1; note col. 4, lines 35 – 50 at least).

Regarding claim 7, Ross further teaches a router (though not explicitly, the cited "router" is inherent in Ross' teaching of cell infrastructures).

Regarding claim 15, Ross teaches an aircraft data transmission system (fig. 1), the aircraft having a data acquisition unit (10), the system comprising means (24) for automatically transmitting data from the acquisition unit via a cellular infrastructure after the aircraft has landed and means (32) for receiving the data (col. 4, lines 40 – 50 and col. 6, lines 13 - 36 at least).

Regarding claims 16 and 17, Ross' means for transmitting data includes a processor (note items 10 and 16 combined in fig. 1).

Regarding claim 20, Ross further teaches receiving the transmitted data at a flight operations center (ATC 30 receives data from item 24).

Regarding claim 33, Ross teaches a computer readable medium having stored thereon instructions which, when executed by a processor, cause the processor to perform the steps (supported by fig. 2) reception of flight data, processing of the data and automatic transmission of the data via a cellular infrastructure when an aircraft has

landed (Ross' processors in both the aircraft and the ground station each processes information with respect to a computer readable medium (again, see fig. 2; note col. 6, lines 13 – 63 at least).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 – 4, 6, 7, 15 – 24, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Wright et al. (US 6,047,165).

Regarding claims 1, 15, 18, 19, and 33, Wright teaches an aircraft data transmission system/computer-implemented method and computer medium, the aircraft having a data acquisition unit (title; col. 1, lines 1 – 5; DFDAU 16, col. 8, lines 38 – 48; DFDR 18 operative with GDL 101, col. 8, lines 59 – 64), the system/computer-

implemented method and computer medium comprising a communications unit (24) located in the aircraft and in communication with the data acquisition unit (GDL airbone segment 101, GDL unit 111, GDL antenna 113; col. 7, lines 6 – 9; col. 8, lines 38 - 48); a cellular infrastructure in communication with the communications unit after the aircraft has landed (Fig. 1A, circular cells defined by wireless routers 201 and base stations 202; fig. 4, circular cells 214, 215, col. 6, lines 50 – 52; col. 9, lines 51 – 57; col. 15, lines 5 – 14 define the system as a cellular infrastructure typical of cellular telephone network), wherein communication is initiated automatically upon landing of the aircraft (col. 16, lines 33-34; "that is automatically downloaded...when aircraft lands."); and a data reception unit in communication with the cellular infrastructure (server/archive 204 in association with server/archive 304; col. 7, lines 33 - 37).

Regarding claim 2, Wright further teaches the data reception unit is in communication with the cellular infrastructure via the Internet (TCP/IP operative with TELCO connection (Fig. 1) clearly defined the use of the Internet).

Regarding claim 3, Wright further teaches the reception unit is in communication with the infrastructure via the PSTN (server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (Fig. 1); col. 7, lines 44 – 46; TELCO is public switch telephone network).

Regarding claim 4, Wright further teaches the communications unit having at least one modem in communication with cellular infrastructure and the reception unit having at least one modem in communication with the cellular infrastructure (network transceiver 26 naturally includes modem to modulate/demodulate signals and base station 202 naturally includes modem with server 204 to demodulate/modulate signals and operative with Ethernet LAN 207).

Regarding claim 6, Wright further teaches an antenna (items 222.223, fig. 5, col. 10, lines 32 – 39; a transceiver subsystem in communication with the antenna (transceiver 221, fig. 5); and a controller in communication with the transceiver subsystem (controller/processor 225; fig. 5; col. 10, lines 44 – 47).

Regarding claim 7, Wright further teaches a router (201) and a processor (304) in communication with the router (item 304 is in communication with router 201; fig. 1; col. 8, lines 1 – 8), the processor having a storage unit (col. 8, lines 1 – 8).

Regarding claim 16, Wright further teaches the inclusion of a processor (22; fig. 3) in the means for transmitting data.

Regarding claim 17, Wright further teaches the inclusion of a processor in the receiving means (server 304 in communication with router 201; fig. 1; col. 8, lines 1 – 8).

Regarding claim 20, Wright further teaches receiving the transmitted data at a flight operations center (fig. 1 shows a remote flight operations control center 300).

Regarding claim 21, Wright further teaches reception and transmission of data via the Internet before receiving the transmission at a flight operations center (TCP/IP operative with TELCO connection in fig. 1 clearly defines use with the Internet).

Regarding claim 22, Wright further teaches reception and transmission of data via the PSTN before receiving the data at a flight operations center (server/archive 304, gateway segment 306 in communication with ground subsystem 200 via ISDN TELCO (fig. 1); col. 7, lines 44 – 46).

Regarding claim 23, Wright further teaches compressing flight data (source coding can be used for data compression. Aircraft data downloaded as compressed data; col. 11, lines 5 – 11 and 20 – 23); encrypting the data (col. 11, lines 5 – 7); segmenting the data (col. 11, lines 5 – 7 and 12 – 19); and constructing packets of data from the segmented flight data (col. 12, lines 57 – 59).

Regarding claim 24, Wright further teaches acknowledging receipt of the transmitted data (polling occurs and receipts of packets acknowledged and retransmissions requested when errors occur; col. 4, lines 7 – 30; col. 16, lines 34 – 39) reassembling the received data, decrypting the data and storing the uncompressed data

(fig. 1 – base station segment operative with wireless bridge segment and receives packets based on TCP/IP and operative with remote flight operations control center 300; also operative with GDL work station segment 303 and controller 301 to acknowledge receipt, reassemble data, decrypt, uncompress and store for further use in server/archive 304).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al. ('194) as applied to claims 1 and 20 above, and further in view of Bannister et al. (US 5,943,399).

As discussed above, Ross teaches all of the limitations except for the communication being via the Internet and via a PSTN.

However, Bannister et al. teaches, in an analogous communication art, data transmission carried out via the use of an Internet connection (item 300 in fig. 1, 8, or 9) and via a public switching telephone network (200 in fig. 1, 8, or 9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ross' teaching by providing an Internet and a PSTN connection as evidenced by Bannister et al. for purposes of enhancing data transmission.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross et al. ('194) as applied to claim 19 above, and further in view of Polivka et al. (US 5,463,656).

As discussed above, Ross teaches all of the limitations except for compressing/uncompressing, encrypting/decrypting and segmenting/reassembling the flight data and constructing packets of data from the segmented flight data.

However, Polivka teaches, in the same field of endeavor of processing flight data, compressing/uncompressing, encrypting/decrypting and segmenting/reassembling the flight data and constructing packets of data from the segmented flight data. Polivka provides for compressing/constructing data (note item 323 in fig. 3A), encrypting data (note encoder unit (330 in fig. 3B), segmenting and constructing packets of data (note modulator 361 in fig. 3B – note col. 10, lines 13 et seq.).

The combination of Ross and Polivka is at least fully functionally equivalent to what is claimed in claims 23 and 24 and would have been obvious to one of ordinary

skill in the art at the time of the invention was made because all of the structural features are taught by the combination in order to achieve the same end result of processing flight data.

With regard to the acknowlegment of transmitted data receipt, such is conventional and is no more than bi-directional communication involving only routine skill in the art.

Patentable Subject Matter

Claims 5, 8 – 14 and 25 – 32 are confirmed because the prior art of record fail to teach a transmission system and method for aircraft comprising, among other limitations, at least one cell channel in communication with a serial card and an antenna to initiate automatic communication.

Conclusion

In order to ensure full consideration of any amendments, affidavits or declarations, or other documents as evidence of patentability, such documents must be submitted in response to this Office action. Submissions after the next Office action, which is intended to be a final action, will be governed by the requirements of 37 CFR 1.116, which will be strictly enforced.

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and

Extensions of time under 37 CFR 1.136(a) will not be permitted in these proceedings because the provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Additionally, 35 U.S.C. 305 requires that reexamination proceedings "will be conducted with special dispatch" (37 CFR 1.550(a)). Extension of time in *ex parte* reexamination proceedings are provided for in 37 CFR 1.550(c).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yonel Beaulieu whose telephone number is (571) 272-6955. The examiner can normally be reached on M-W 9-3; F 9-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Y. BEAULIEU
AU 3661

Interview Summary	Application No.	Applicant(s)	
	90/008,742	6181990	
	Examiner	Art Unit	
	Yonel Beaulieu	3661	

All participants (applicant, applicant's representative, PTO personnel):

(1) Yonel Beaulieu. (3)____.

(2) Jonathan Parks (Reg 40,120) (4)____.

Date of Interview: 06 July 2005.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☐ applicant 2)☒ applicant's representative]

Exhibit shown or demonstration conducted: d)☒ Yes e)☐ No.
If Yes, brief description: ____.

Claim(s) discussed: ____.

Identification of prior art discussed: Ross ('194) & Wright ('165)

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: ____.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Applicant's Representative argues the Ross (US '194) & Wright (US '165) teach away from applicant's claimed invention. In particular, Ross does not communicate the data upon landing of the aircraft, whereas Wright does not teach this idea of cellular infrastructure to communicate (transmit) the data.

Such will be given further consideration upon filing and entry of an amendment. The added limitations are subject to further search for additional consideration.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

U.S. Patent and Trademark Office
PTOL-413 (Rev. 04-03) Interview Summary Paper No. 20051305

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reexamination of

U.S. Patent No. 6,181,990

Control No.: 90/006,742

Filing Date: August 12, 2003

Inventors: Grabowsky et al.

Examiner: Yonel Beaulieu

Art Unit:

Title: AIRCRAFT FLIGHT DATA ACQUISITION AND TRANSMISSION SYSTEM

AMENDMENT AND RESPONSE TO OFFICE ACTION IN EX PARTE REEXAMINATION

July 26, 2005

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is submitted in the above-referenced reexamination of U.S. Patent No. 6,181,990 (hereinafter "the '990 patent"). In response to the Office Action mailed on June 3, 2005, the Patent Owner responds as follows, where:

A section entitled Amendments to the Claims begins on page 2; and

A section entitled Remarks begins on page 5.

Attorney Docket No. 98118

AMENDMENTS TO THE CLAIMS

The Patent Owner respectfully requests entry of the following amendments to the claims:

1. (amended): An aircraft data transmission system, the aircraft having a data acquisition unit, and the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least one sensor on the aircraft, comprising:

a communications unit located in the aircraft and in communication with the data acquisition unit;

a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the cellular infrastructure communicates said flight data, and wherein the communication is initiated automatically upon landing of the aircraft; [and]

a data reception unit in communication with said cellular infrastructure; and

wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

15. (amended): An aircraft data transmission system, the aircraft having a data acquisition unit, the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least one sensor on the aircraft, comprising:

means for transmitting said flight data from the data acquisition unit, via a cellular infrastructure after the aircraft has landed, wherein transmission of the data is initiated automatically upon landing of the aircraft; [and]

means for receiving said flight data from said cellular infrastructure; and

wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

18. (amended): A method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a data acquisition unit;

transmitting said flight data via a cellular communications infrastructure after the aircraft has landed, wherein the cellular communications infrastructure is accessed automatically upon landing of the aircraft; [and]

receiving said transmitted flight data; and

wherein said flight data is gathered in-flight by at least one sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

19. (amended): A computer-implemented method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a digital flight data acquisition unit, wherein said flight data is gathered in-flight by at least one sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure after the aircraft has landed, wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.

33. (amended): A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:

receiving flight data from a digital flight data acquisition unit in an aircraft, wherein said flight data is gathered in-flight by at least one sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure when said aircraft has landed, wherein the cellular infrastructure is accessed automatically upon landing of the aircraft.

REMARKS

The '990 patent includes claims 1-33. In the Office Action, claims 5, 8-14 and 25-32 are confirmed. Claims 1-4, 6, 7, 15-24 and 33 are rejected. Specifically, claims 1, 4, 6, 7, 15-20 and 33 are rejected under 25 U.S.C. section 102(b) as being anticipated by U.S. Patent No. 5,351,194 to Ross et al. (Ross). Claims 1-4, 6, 7, 15-24 and 33 are rejected under 35 U.S.C. section 102(e) as being anticipated by U.S. Patent No. 6,047,165 to Wright, et al. (Wright). Claims 2, 3, 21 and 22 are rejected under 35 U.S.C. section 103(a) as being unpatentable over Ross in further view of U.S. Patent No. 5, 943,399 to Bannister, et al. (Bannister). Claims 23 and 24 are rejected under 35 U.S.C. section 103(a) as being unpatentable over Ross in further view of U.S. Patent No. 5,463,656 to Polivka, et al. (Polivka). The Patent Owner traverses all of the claim rejections.

Statement under 37 CFR 1.560(b)

The Patent Owner and the undersigned would like to thank the Examiner for the courtesies extended during the interview of July 6, 2005 (the interview). Pursuant to 37 CFR 1.560(b), the Patent Owner provides below, "a complete written statement of the reasons presented at the interview as warranting favorable action." *See* 37 CFR 1.560(b).

(1) The Patent Owner argued that claims 1, 15, 18, 19 and 33 are patentable over Ross because Ross fails to teach communicating "flight data . . . wherein the communication is initiated automatically upon landing the aircraft." To the contrary, Ross only teaches sending a flight plan cancellation upon the landing of an aircraft, not "flight data" as recited in claims 1, 15, 18, 19 and 33.

(2) The Patent Owner also argued that Ross does not teach "a data storage medium having stored thereon flight data" as recited in claims 1 and 15. In fact, Ross does not teach any kind of storage of "flight data."

(3) The Patent Owner also argued that claims 1, 15, 18, 19 and 33, as amended, are patentable over Wright because Wright fails to teach any "cellular infrastructure." Instead, Wright teaches transmitting data in unlicensed frequency bands to a series of "airport-resident GDL wireless router segments 201" located at various locations in an airport. The Patent Owner also noted that, in addition, Wright teaches away from transmitting in licensed frequencies, such

as those used by cellular infrastructures. *See* Wright at col. 14, ll. 32-40.

Claim Amendments

The Patent Owner has amended the claims as follows:

(1) Independent claim 1 has been amended to recite that the, "flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft," and is "gathered in-flight by at least one sensor on the aircraft." Claims 15, 18, 19 and 33 have been similarly amended.

(2) Independent claim 1 has been amended to recite that, "the cellular infrastructure communicates said flight data." Claim 15 has been similarly amended.

(3) Independent claim 1 has been amended to recite that the aircraft includes, "a data storage medium having stored thereon flight data." Claim 15 has been similarly amended.

The Patent Owner submits that support for all of the claim amendments may be found throughout the specification, for example, at col. 3, ll. 7-20.

The Ross Reference

The Ross reference teaches, "an apparatus and method of canceling a flight plan of an aircraft to facilitate release of an IFR [Instrument Flight Rules] airspace to other aircraft and for communicating the location of a downed aircraft during emergencies." *See* Ross at Abstract. In the disclosure of Ross, a controller 10 includes three switches, as illustrated in Figure 1 below:

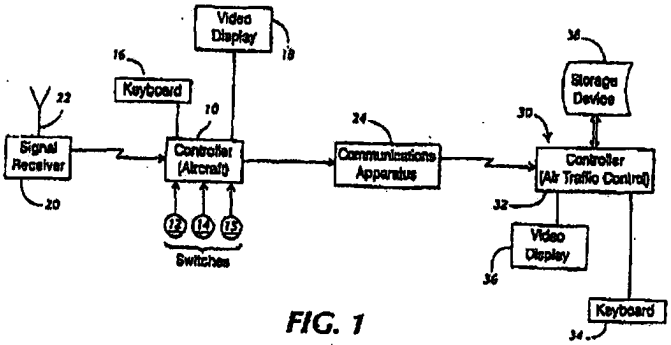


FIG. 1

A switch 14 may be activated manually by the pilot, or automatically when the aircraft lands. *See* Ross at col. 4, ll. 25-30. When switch 14 is activated, the controller 10 communicates with a flight control center 30 to cancel an IFR flight plan for the aircraft, allowing airspace assigned to the aircraft to be released. *See* Ross at col. 5, ll. 48-66. The Patent Owner notes that canceling an IFR flight plan typically involves nothing more than making a brief voice telephone call to the air traffic controller, not any sizable transmission of data.

An additional switch 15 of Ross's controller 10 may be activated in flight by the pilot of the aircraft in the event of an emergency. When switch 15 is activated, the controller 10 communicates in flight the altitude, airspeed and direction of the aircraft to the flight control center 30. *See* Ross at col. 6, ll. 13-22. Another switch 12 of the controller 10 may be activated by a high-impact force, such as a crash. When switch 12 is activated, the controller may transmit the aircraft's current location to the flight control center 30.

The Wright Reference

The Wright reference teaches, "a flight information communication system [with] a plurality of RF direct sequence spread spectrum ground data links that link respective aircraft-resident subsystems, in each of which a copy of its flight performance data is stored, with airport-located subsystems." *See* Wright at Abstract.

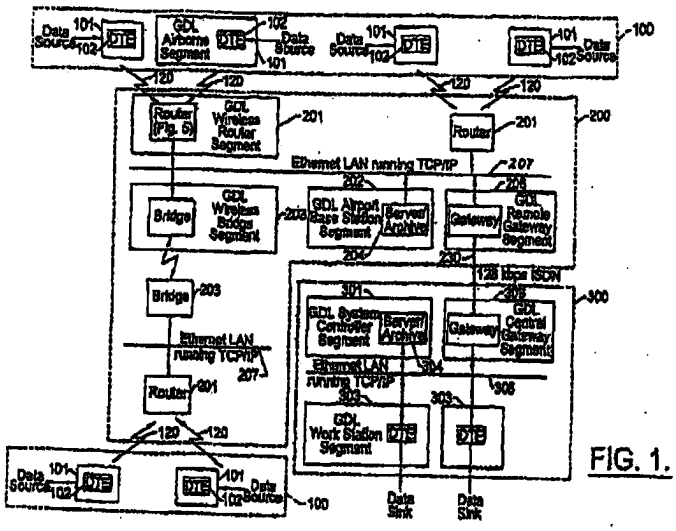


FIG. 1.

As shown in Figure 1 above, Wright's "airport-located subsystem" or "airport-resident ground system 200" includes a complex infrastructure that has a plurality of "airport-resident GDL wireless router segments 201." *See* Wright at col. 7, ll. 24-27. The "airport-resident ground system 200" is in communication with an "aircraft-installed ground data link (GDL) subsystem 100" through the "wireless router segments 201" over a series of "communication links 120." Wright teaches that "communication links 120" are, "spread spectrum radio frequency (RF) links having a carrier frequency lying in an unlicensed portion of the electromagnetic spectrum." *See* Wright at col. 14, ll. 32-40. Interference between the "communication links 120" may be minimized by employing "different transmit frequencies and a different channel spacing" in a way that is "akin to that employed in cellular telephone networks." *See* Wright at col. 15, ll. 1-16.

Section 102(b) Rejections Over Ross

The Patent Owner submits that the rejections over Ross should be withdrawn because Ross fails to disclose each and every element recited in claims 1, 15, 18, 19 and 33. *See* MPEP § 2131 (stating that a claim is anticipated only if each and every element as set forth in the claim is disclosed in a single prior art reference).

For example, the Patent Owner submits that Ross fails to teach, among other things, communicating, "flight data. . . wherein the communication is initiated automatically upon landing of the aircraft," as recited in claim 1. Ross teaches canceling a flight plan on landing. *See* Ross at col. 5, ll. 48-66. Canceling a flight plan does not, however, involve communicating, "flight data includ[ing] time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft," as recited in claim 1. Further, canceling a flight plan does not involve communicating "flight data gathered in-flight by at least one sensor on the aircraft," as recited in claim 1. Instead, canceling a flight data plan involves placing a brief telephone call and does not involve the transmission of flight data which, in various embodiments, includes the transmission of a large amount of data.

Ross does teach communicating, "altitude, air speed, and direction of the aircraft" from the aircraft to the flight control center 30 of Ross. *See* Ross at col. 6, ll. 13-22. This communication, however, takes place when the pilot manually activates switch 15 of Ross in flight, not, "automatically upon landing of the aircraft," as recited in claim 1.

Accordingly, the Patent Owner submits that claim 1, as well as claims 2-7 which depend directly or indirectly from claim 1, are patentable over Ross. Independent claims 15, 18, 19 and 33 have been amended to contain limitations similar to those limitations of claim 1 discussed above, and therefore claims 15, 18, 19 and 33, as well as claims 16-17 and 20-24 which depend directly or indirectly from claims 15 and 19, respectively, are patentable over Ross.

In addition to the distinctions over Ross discussed above, the Patent Owner submits that claims 1 and 15 include at least one other element that Ross fails to teach. For example, claims 1 and 15 recite, "the aircraft including a data storage medium having stored thereon flight data." Ross is silent as to storing any "flight data" on the aircraft. Accordingly, claims 1 and 15, as well as claims 2-7 and 16-17, which depend directly or indirectly from claims 1-15 are patentable over

Ross for this additional reason as well as those discussed above with respect to claims 1, 15, 18, 19, and 33.

Section 102(e) Rejections over Wright

The Patent Owner submits that the rejections over Wright should be withdrawn because Wright fails to disclose each and every element recited in claim 1. *See* MPEP § 2131. For example, the Patent Owner submits that Wright fails to teach, among other things, "a cellular infrastructure" that "communicates said flight data," as recited in claim 1.

Wright teaches an "airport-resident ground system 200" having a plurality of "wireless router segments 201." *See* Wright at col. 7, ll. 24-38. The "wireless router segments 201" are in communication with aircraft-based systems over "wireless communication links 120." *See* Wright at col. 6, ll. 55-62. The "airport-resident ground system 200" of Wright is clearly not a "cellular infrastructure" as recited in claim 1. For example, Wright teaches that its "wireless communication links 120" utilize unlicensed carrier frequencies. *See, e.g.*, Wright at col. 14, ll. 32-40. It is well known in the art of cellular communication that a cellular infrastructure, such as a mobile telephone voice/data network, uses carrier frequencies in the licensed frequency range. Accordingly, the "airport-resident ground system 200" of Wright cannot be a "cellular infrastructure" as recited in claim 1.

Not only does Wright fail to teach the use of a cellular infrastructure, but it, in fact, teaches away from it. For example, Wright cites its use of unlicensed (and therefore non-cellular) carrier frequencies as a "particularly useful characteristic" while noting that other options, including those operating in the licensed frequency spectrum (such as, for example, the licensed frequency bands used by a cellular infrastructure), "restrict usage geographically or require the user to obtain a license in order to operate the system." *See* Wright at col. 14, ll. 32-40. This demonstrates that claim 1 is not only novel over Wright, but is also non-obvious. *See* MPEP § 2144.05 (A *prima facie* case of obviousness may also be rebutted by showing that the art, in any material respect, teaches away from the claimed invention).

The Patent Owner notes that the "airport-resident ground system 200" of Wright does have "overlapping [unlicensed band] ground link communication coverage, as indicated by

overlapping circles 214 and 215," and a co-channel interference minimization scheme described as, "akin [*i.e.*, similar] to that employed in cellular telephone networks." *See* Wright at col. 9, ln. 58 – col. 10, ln. 3, col. 15, ll. 1-16. However, these characteristics merely show that the "airport-resident ground system 200" of Wright uses some techniques similar to those used in cellular, or mobile, communication. The "airport-resident ground system 200," though, is clearly not a "cellular infrastructure," especially in light of the differences and teaching away as discussed above.

Accordingly, the Patent Owner submits that claim 1, as well as claims 2-7 which depend directly or indirectly from claim 1, are patentable over Wright. Independent claims 15, 18, 19 and 33 include limitations similar to those of claim 1 discussed above, and therefore claims 15, 18, 19 and 33, as well as claims 16-17 and 20-24 which depend directly or indirectly from claims 15 and 19, respectively, are patentable over Wright.

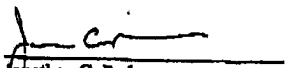
The Patent Owner is not conceding the correctness of the Office's rejections with respect to any of the dependent claims discussed above and hereby reserves the right to make additional arguments as may be necessary because the dependent claims include additional features that further distinguish the claims from the cited references, taken alone or in combination. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

CONCLUSION

Patent Owner respectfully asserts that claims 1-4, 6, 7, 15-24 and 33 as amended herein have been shown to be patentable over the references cited in the June 3, 2005 Office Action in the present reexamination proceeding. Accordingly, the Patent Owner respectfully requests issuance of a reexamination certificate directed to claims 1-4, 6, 7, 15-24 and 33 as herein amended as well as to previously confirmed claims 5, 8-14 and 25-32.

As required under 37 C.F.R. § 1.550(f), a copy of this response has been provided to the reexamination requester in the manner set forth in 37 C.F.R. § 1.248.

Respectfully submitted,



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Attorney Docket No. 98118

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing AMENDMENT AND RESPONSE TO OFFICE ACTION IN REEXAMINATION was served by First Class Mail, postage prepaid, upon:

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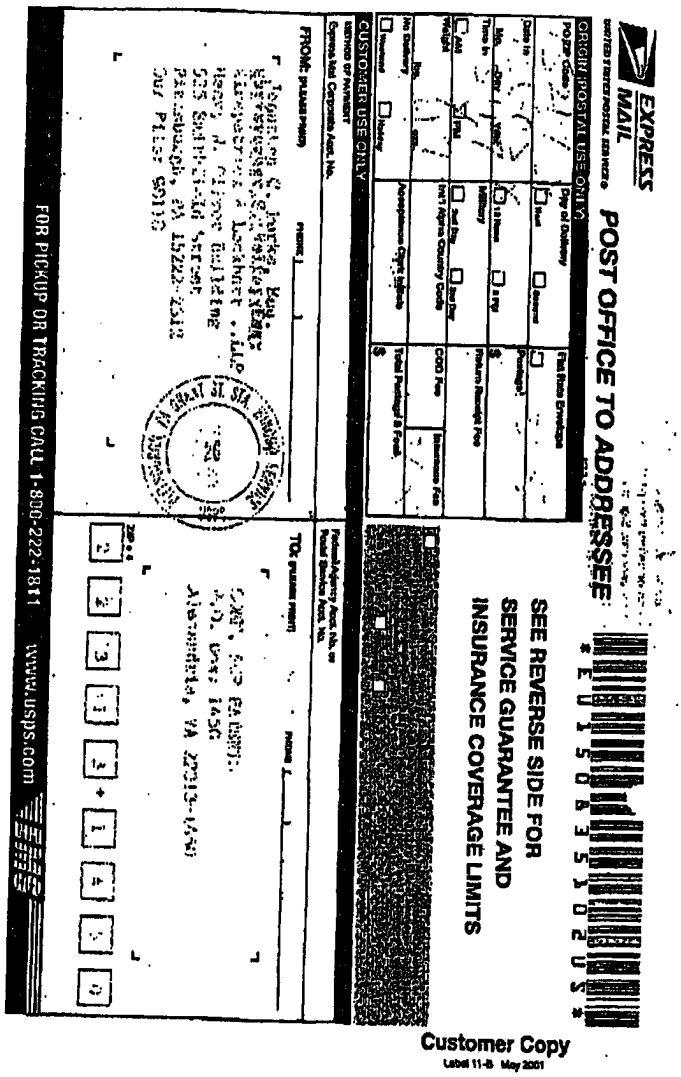

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/006,742	08/12/2003	6181990	GCSD-1360 (51298)	1151

7590 10/03/2005

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EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Notice of Intent to Issue Ex Parte Reexamination Certificate	Control No.	Patent Under Reexamination	
	90/006,742	6181990	
	Examiner	Art Unit	
	Yonel Beaulieu	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ Prosecution on the merits is (or remains) closed in this *ex parte* reexamination proceeding. This proceeding is subject to reopening at the initiative of the Office or upon petition. *Cf.* 37 CFR 1.313(a). A Certificate will be issued in view of
   (a) ☒ Patent owner's communication(s) filed: *7/26/05 & 9/21/05*.
   (b) ☐ Patent owner's late response filed: ____.
   (c) ☐ Patent owner's failure to file an appropriate response to the Office action mailed: ____.
   (d) ☐ Patent owner's failure to timely file an Appeal Brief (37 CFR 41.31).
   (e) ☐ Other: ____.

   Status of *Ex Parte* Reexamination:
   (f) Change in the Specification: ☐ Yes ☒ No
   (g) Change in the Drawing(s): ☐ Yes ☒ No
   (h) Status of the Claim(s):
   (1) Patent claim(s) confirmed: *8-14 and 25-32*.
   (2) Patent claim(s) amended (including dependent on amended claim(s)): *1-7,15-24 and 33*
   (3) Patent claim(s) cancelled: *NONE*.
   (4) Newly presented claim(s) patentable: 34-51.
   (5) Newly presented cancelled claims: NONE.

2. ☒ Note the attached statement of reasons for patentability and/or confirmation. Any comments considered necessary by patent owner regarding reasons for patentability and/or confirmation must be submitted promptly to avoid processing delays. Such submission(s) should be labeled: "Comments On Statement of Reasons for Patentability and/or Confirmation."

3. ☐ Note attached NOTICE OF REFERENCES CITED (PTO-892).

4. ☐ Note attached LIST OF REFERENCES CITED (PTO-1449 or PTO/SB/08).

5. ☐ The drawing correction request filed on ____ is: ☐ approved ☐ disapproved.

6. ☐ Acknowledgment is made of the priority claim under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some* c)☐ None of the certified copies have
   ☐ been received.
   ☐ not been received.
   ☐ been filed in Application No. ____.
   ☐ been filed in reexamination Control No. ____.
   ☐ been received by the International Bureau in PCT Application No. ____.

   * Certified copies not received: ____.

7. ☒ Note attached Examiner's Amendment.

8. ☒ Note attached Interview Summary (PTO-474).

9. ☐ Other: ____.

cc: Requester (if third party requester)

UNITED STATES DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

REEXAMINATION

REASONS FOR PATENTABILITY / CONFIRMATION

Reexamination Control No. 90/006,742 Attachment to Paper No. 20052609.

Art Unit 3661.

EXAMINER's AMENDMENT
An examiner's amendment to the record appears below. The changes made by this examiner's amendment will be reflected in the reexamination certificate to issue in due course.

Mr. Christopher Wolfe was notified of the following amendments to correct minor informalities in designating insertions and deletions – now claims 50 – 52 have been renumbered as claims 49 – 51, respectively, since claim 49 was omitted when new claims were submitted by Patent owner - as per the attached interview summary (PTOL - 474)

IN THE CLAIMS

(See Attachment)

PATENTABLE SUBJECT MATTER
Claims 1 - 51 are patentable over the prior art of record. As argued by the Patent Owner, the art of record fail to teach an aircraft data transmission system and method comprising, among other limitations, at least one first sensor on the aircraft which gathers in-flight data and at least one second sensor configured to sense a landing of the aircraft, wherein communication is initiated via a cellular infrastructure in response to the second sensor sensing the landing of the aircraft.

Conferees:
Tan Nguyen TN
Thomas Black TB

(Examiner's Signature)

PTOL-476 (Rev. 03-98)

AMENDMENTS TO THE CLAIMS

(Attachment to PTOL – 476)

1. (twice amended): An aircraft data transmission system, the aircraft having a data acquisition unit, and the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least a first sensor on the aircraft, comprising:

a communications unit located in the aircraft and in communication with the data acquisition unit;

at least a second sensor configured to sense a landing of the aircraft;

a cellular infrastructure in communication with said communications unit after the aircraft has landed, wherein the cellular infrastructure communicates said flight data, and wherein the communication is initiated [automatically upon] when at least the second sensor senses the landing of the aircraft; [and]

a data reception unit in communication with said cellular infrastructure; and

wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

15. (twice amended): An aircraft data transmission system, the aircraft having a data acquisition unit, the aircraft including a data storage medium having stored thereon flight data gathered in-flight by at least one sensor on the aircraft, comprising:

sensing means for sensing a landing of the aircraft;

means for transmitting said flight data from the data acquisition unit, via a cellular infrastructure after the aircraft has landed, wherein transmission of the data is initiated [automatically upon] when the sensing means sense the landing of the aircraft; [and]

means for receiving said flight data from said cellular infrastructure; and

wherein said flight data includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

18. (twice amended): A method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a data acquisition unit;

receiving a signal indicating a landing of the aircraft from at least a first sensor;

transmitting said flight data via a cellular communications infrastructure after the aircraft has landed, wherein the cellular communications infrastructure is accessed [automatically upon] in response to the signal [landing of the aircraft]; [and]

receiving said transmitted flight data; and

wherein said flight data is gathered in-flight by at least a second sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft.

19. (twice amended): A computer-implemented method of transmitting aircraft flight data from an aircraft, comprising:

receiving flight data from a digital flight data acquisition unit, wherein said flight data is gathered in-flight by at least a first sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;

receiving a signal indicating a landing of the aircraft from at least a second sensor;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure after the aircraft has landed, wherein the cellular infrastructure is accessed in response to the signal [automatically upon landing of the aircraft].

33. (twice amended): A computer readable medium having stored thereon instructions which when executed by a processor, cause the processor to perform the steps of:

receiving flight data from a digital flight data acquisition unit in an aircraft, wherein said flight data is gathered in-flight by at least a first sensor on the aircraft, and includes time, airspeed, altitude, vertical acceleration, and heading data relating to a flight of the aircraft;

receiving a signal indicating a landing of the aircraft from at least a second sensor;

processing said flight data to prepare said data for transmission; and

transmitting said processed data via a cellular infrastructure when said aircraft has landed, wherein the cellular infrastructure is accessed in response to the signal [automatically upon landing of the aircraft].

34. (new): The system of claim 1, wherein the cellular infrastructure is a cellular telephone infrastructure.

35. (new): The system of claim 34, wherein said data reception unit is in communication with said cellular infrastructure via the Internet.

36. (new): The system of claim 34, wherein said data reception unit is in communication with said cellular infrastructure via the public switch telephone network.

37. (new): The system of claim 34, wherein said communications unit has at least one modem in communication with said cellular infrastructure and said data reception unit has at least one modem in communication with said cellular infrastructure.

38. (new): The system of claim 34, wherein said communications unit includes:

a processor;

a serial card in communication with said processor;

at least one cell channel in communication with said serial card; and

at least one antenna in communication with said cell channel.

39. (new): The system of claim 34, wherein said cellular infrastructure includes:

an antenna;

a transceiver subsystem in communication with said antenna; and

a controller in communication with said transceiver subsystem.

40. (new): The system of claim 34, wherein said data reception unit includes:

a router; and

a processor in communication with said router, said processor having a storage unit.

41. (new): The system of claim 15, wherein the cellular infrastructure is a cellular telephone infrastructure.

42. (new): The system of claim 41, wherein said means for transmitting data includes a processor.

43. (new): The system of claim 41, wherein said means for receiving data includes a processor.

44. (new): The method of claim 18, wherein the cellular communications infrastructure is a cellular telephone infrastructure.

45. (new): The method of claim 19, wherein the cellular infrastructure is a cellular telephone infrastructure.

46. (new): The method of claim 45 further comprising receiving said transmitted data at a flight operations center.

47. (new): The method of claim 46 further comprising receiving said transmitted data and transmitting said received data via the Internet before receiving said transmitted data at a flight operations center.

48. (new): The method of claim 46 further comprising receiving said transmitted data and transmitting said received data via the public-switched telephone network before receiving said transmitted data at a flight operations center.

49. (new): The method of claim 45 wherein processing said flight data includes:

compressing said flight data;

encrypting said flight data;

segmenting said flight data; and

constructing packets of data from said segmented flight data.

50. (new): The method of claim 45 wherein receiving said transmitted data includes:

acknowledging receipt of said transmitted data;

reassembling said received data;

decrypting said reassembled data;

uncompressing said decrypted data; and

storing said uncompressed data.

51. (new): The method of claim 33, wherein the cellular infrastructure is a cellular telephone infrastructure.